Nebraska eHealth Plan

Vision, Goals, Objectives

June 30, 2009

2009
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Executive Summary

Health information technology (Health IT), often referred to as eHealth, promises to improve the quality of care and patient safety as well as enhance public health efforts. Over the past several years, significant progress has been made in addressing many of the barriers which have limited the adoption of health IT. Additionally, the American Recovery and Reinvestment Act provides significant funding for health IT. The time is right to build upon the investments in health IT being made in Nebraska by health care providers, hospitals, pharmacies, other health care providers, public health, and third party payers.

The Nebraska Information Technology Commission's eHealth Council has taken the lead in developing the state's eHealth Plan. This plan lays out the state's vision, goals, and objectives. Key considerations and recommendations are also included. More detailed action plans will be included in a later version of the plan.

Vision

Stakeholders in Nebraska will cooperatively improve the quality and efficiency of patient-centered health care and population health through a statewide, seamless, integrated patient-centered system of connected health information exchanges. Nebraska will build upon the investments made in the state's health information exchanges and other initiatives which promote the adoption of health IT.

Goals

These goals will be achieved while ensuring the privacy and security of health information, which is an essential requirement in successfully implementing health information technology and exchanging health information:

- Improve the quality of care and performance of health care systems, while controlling costs;
- Improve patient safety;
- Encourage greater patient involvement in personal health care decisions;
- Enhance public health and disease surveillance efforts;
- Improve patient access to health care;
- Improve patient outcomes using evidence-based practices.

Objectives

Adoption

- Encourage and support health IT adoption by providers.
- Encourage and support e-prescribing.
- Build an appropriately-trained, skilled health information technology workforce.
- Provide effective analytics reporting for decision support.
- Encourage and support the adoption of personal health records.
- Encourage the integration of health information exchange with telehealth delivery.

Interoperability

- Support the development and expansion of health information exchanges to improve the quality and efficiency of care.
- Support the development of interconnections among health information exchange in the state and across state borders.
- Encourage the electronic exchange of health data to state and local public health entities.
- Leverage the state's role as a payer to support health information exchange.
- Promote the development of a robust telecommunications infrastructure.

Privacy and Security

- Continue to address health information security and privacy concerns of providers and consumers.
- Build awareness and trust of health information technology.

Governance

- Address issues related to governance, oversight, and financing of health information exchange.

Key Considerations and Recommendations

Adoption

- Small physician practices, critical access hospitals, and independent pharmacies—especially in the most rural areas of the state—may require both financial and technical support to adopt health information technologies. Systems need to be scaled to optimal use given the size and scope of physician practices and institutional settings.
- Information technology applications have to include improvements in management that generate a fair return on investment to the organization adopting the new technology.
- It is also critical that providers include developing a culture of safety and continuous quality improvement as part of their health IT implementation plan. Without a culture of safety and continuous quality improvemetn, health IT adoption will have limited impact on improving quality of care and patient safety.
- When implementing new technologies, efforts should be made to identify new sources of errors and to address those errors.
- Physician practices, critical access hospitals, and pharmacies which have successfully implemented health IT can serve as models.
- Barriers to increased use of telehealth should be identified and addressed. These include statutory and regulatory issues as well as limitations on bandwidth.
- Colleges and universities should be encouraged to create and enhance existing HIT and bioinformatics curriculums for under grad and graduate degree programs.
- The involvement of all stakeholders in health IT implementation should be encouraged.
- Consumers are an important stakeholder group. They must be included in any advisory body.

Interoperability

- National standards and certification processes should be utilized to facilitate interoperability.
- Interoperability solutions selected should be cost-effective and provide the greatest return on investment to all engaged parties, and all who benefit should contribute to the cost of the investment.
- The development of sustainable business models should be encouraged.

- Existing eHealth initiatives and investments in Nebraska should be leveraged.
- Health information exchanges may play a role in providing value-added services and support to providers as well as exchanging information.

Privacy and Security

- Privacy and security are key requirements for the exchange of health information exchange.
- Privacy and security policies and practices will continue to evolve in response to changes in the legal environment and technological changes.
- Nebraska's privacy and security laws may need to be further reviewed in light of the HITECH ACT. Compliance may require ongoing monitoring and policy changes.
- Although consumers are generally supportive of the use of health information technology, efforts should be made to educate consumers on how their health information is used, how it is protected, and what privacy rights they have.
- Providers may also need information and training on privacy and security laws and practices.

Governance

- Stakeholder input should be solicited when developing policies and recommendations, including future versions of the state eHealth plan.
- Mechanisms must be put in place to ensure accountability of any funds received through the American Recovery and Reinvestment Act.
- The sustainability of health information exchanges must be addressed.

Introduction

Promise of Health IT. Health information technology (Health IT), often referred to as eHealth, promises to improve the quality of care and patient safety as well as enhance public health efforts. The push for improving the quality of health care began ten years ago. In 1999, a report on medical errors by the Institute of Medicine found that more Americans died from preventable medical errors in hospitals than from automobile accidents, breast cancer or AIDs. Health IT promises to:

- **Improve the quality of care and performance of health care providers, while controlling costs.** Health care providers can make better make clinical decisions and manage patient care with more complete patient information. The need for duplicate tests may be reduced.
- **Improve patient safety**. Medication and other errors may be reduced by the implementation of Health IT because providers have timely and complete information.
- **Improve patient outcomes using evidence-based practices.** Electronic medical record systems can provide evidence-based knowledge to clinical decision makers quickly and accurately at the point of care.
- **Encourage greater patient involvement in personal health care decisions.** Personal health records can help patients track their progress, record observations of daily living, and manage their health care.
- **Enhance public health and disease surveillance efforts.** Public health reporting is often done manually, rather than electronically. Electronic reporting can provide more timely information to public health officials and reduce the reporting burden of providers, increasing the prospects for timely and accurate reporting.
- **Improve patient access to health care.** Many of Nebraska's rural counties lack access to specialists. Two-way videoconferencing and other telehealth technologies can make specialist services (including consultation, patient counseling, and diagnostic services) available to residents of rural areas.

National Initiatives. The importance of electronic health records in efforts to improve the quality of care was officially recognized by President Bush five years ago when he called for Americans to have electronic health records by 2014. The Office of the National Coordinator for Health IT has provided leadership for health IT efforts, publishing the *Federal Health Information Technology Strategic Plan*[1] in 2008. The National Governors Association State Alliance for eHealth has provided information and recommendations to states. National bodies, including the Health Information Technology Standards Panel (HITSP), have worked to develop standards. The Certification Commission for Health IT (CCHIT) has begun certifying electronic medical records, e-prescribing systems, and personal health records. Under President Obama, the push to adopt health IT and to reform health care has intensified.

[1] *The Federal Health Information Technology Strategic Plan: 2008-1012* is available at: http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_10731_848084_0_0_18/HITStrategicPlanSummary508.pdf .

Current Adoption and Barriers. Nevertheless, health IT adoption remains low. Nationally, 21% of physician offices and 10% of hospitals had implemented EMRS in 2008.[2] Barriers to health IT adoption include cost, time required for implementation, and privacy and security concerns, and technical issues.

Progress and Opportunities. Over the past few years, significant progress has been made in addressing these barriers. Many technical issues are being addressed by the continued development of standards and the certification of electronic medical record systems. Over 40 states, including Nebraska, have worked together through the national Health Information Security and Privacy Collaborative (HISPC) to address privacy and security issues. Additionally, the American Recovery and Reinvestment Act provides significant funding for health IT. The time is right to build upon the investments in health IT being made in Nebraska by health care providers, hospitals, pharmacies, other health care providers, public health, and third party payers.

[2]Office of the National Coordinator website, http://healthit.hhs.gov/portal/server.pt?open=512&objID=1152&parentname=CommunityPage&parentid=3&mode=2&in_hi_userid=10741&cached=true, accessed June 11, 2009.

Consumer Considerations

As stakeholders, consumer needs and use of health IT should also be considered. Consumers can be adult children caring for elderly parents, parents of young children, as well those seeking health care for themselves.

Consumer Views of Health IT. Nebraska consumers are generally receptive toward health IT and health information exchange. Research by the University of Nebraska Public Policy Center indicates that Nebraskans have positive views about sharing health information electronically, but do have some privacy and security concerns. Most participants in the deliberative discussion felt that the State of Nebraska had a role in ensuring the privacy and security of health information (100%), providing information to consumers about health information security and privacy (94%), regulating health information networks (91%), and facilitating public-private partnerships to exchange health information (88%).[3]

The support of Nebraska consumers toward health information exchange is also born out by the high rate of consumers deciding to opt-in to Nebraska's largest active health information exchange, the Nebraska Health Information Initiative (NeHII). Less than two percent of consumers have opted out of participating in NeHII.

Consumers are also extremely satisfied with telehealth services provided through the Nebraska Statewide Telehealth Network. Virtually all patients indicated they would recommend its use to a family member. Use of the system saved consumers attending meetings and conferences over $1 million in mileage costs alone.

Referral Patterns. Nebraskans, especially those in rural areas of the state, often travel for health care, sometimes crossing state lines. Medical trading areas are often regional or among specialty treatment providers with specific business needs. These needs can be addressed through an HIE that supports data exchange through an integrated approach to improve patient care and lower cost. The neighboring states of Iowa, Kansas, Wyoming and Colorado have been mentioned as medical trading areas with Nebraska. Where appropriate, the exchange of permitted patient information should be considered with these adjacent regions with the eventual goal of being able to exchange health information across the entire United States.

[3] Abdel-Monem, Tarik, and Herian, Mitchel, Sharing Health Records Electronically: The Views of Nebraskans, University of Nebraska Public Policy Center, December 11, 2008, http://ppc.unl.edu/userfiles/file/Documents/projects/eHealth/Sharing_Health_Records_Electronically_Final_Report.pdf, accessed on June 25, 2009.

Stakeholder Involvement and Social Capital

Nebraskans have a history of working together, dating back to the days of the pioneers. This may be Nebraska's greatest strength. The Nebraska Information Technology Commission's eHealth Council has taken the lead in developing the state's eHealth Plan. The eHealth Council has 25 members representing state and federal government, health care providers, eHealth initiatives, public health, employers, payers, and consumers. The eHealth Council has worked to develop a common understanding of eHealth and to encourage the development of social capital. Nebraska's health information exchanges have also invested time and effort to involve stakeholders and to build social capital.

Involvement of stakeholders in meetings and work groups of the eHealth Council has been encouraged regardless of ethnicity, gender, or race. Various stakeholder groups have been invited to participate in panels and give presentations to the eHealth Council. All meetings of the eHealth Council are open to the public. Additionally, work groups have been created to address issues related to health information security and privacy, personal health records, e-prescribing, and public health. Work groups have included both eHealth Council members and other stakeholders. As more work is done to develop action plans which support the objectives identified in this plan, additional work groups may be formed. An electronic newsletter also provides a vehicle to keep stakeholders informed about the activities of the eHealth Council and the development of the state eHealth plan.

The eHealth Council views the development of a statewide eHealth plan as an iterative process. This draft plan will be posted on the Nebraska Information Technology Commission's website for comment. Members will be asked to share the draft plan with their constituents and contacts. Comments will be considered and incorporated into later versions of the plan.

Members of the eHealth Council and its work groups are listed in the appendix.

Vision

Stakeholders in Nebraska will cooperatively improve the quality and efficiency of patient-centered health care and population health through a statewide, seamless, integrated patient-centered system of connected health information exchanges. Nebraska will build upon the investments made in the state's health information exchanges and other initiatives which promote the adoption of health IT.

Guiding Principles

The development of health information exchange in Nebraska will:

- Utilize national standards and certification to facilitate interoperability.
- Utilize solutions which are cost-effective and provide the greatest return on investment.
- Utilize a sustainable business model.
- Leverage existing eHealth initiatives and investments in Nebraska.
- Support the work processes of providers.
- Encourage ongoing stakeholder engagement and participation in development of the state plan and throughout all stages of implementation.
- Support consumer engagement and ensure the privacy of patient information.
- Encourage transparency and accountability.

Goals

These goals will be achieved while ensuring the privacy and security of health information, which is an essential requirement in successfully implementing health information technology and exchanging health information:

- Improve the quality of care and performance of health care systems, while controlling costs;
- Improve patient safety;
- Encourage greater patient involvement in personal health care decisions;
- Enhance public health and disease surveillance efforts;
- Improve patient access to health care;
- Improve patient outcomes using evidence-based practices.

Objectives

The State of Nebraska has developed objectives which support the four themes of adoption, interoperability, privacy and security, and governance. These themes echo the themes identified by the Office of the National Coordinator in the *Federal Health Information Technology Strategic Plan: 2008-1012*.[4]

Adoption

Current environment

Adoption of health IT by providers is a key building block for health information exchange. Health IT applications include electronic medical records (EMRs), e-prescribing, and telehealth. Consumers can use personal health records (PHRs) to access their health information, record observations of daily living, and better manage their care.

Adoption of electronic medical records remains low. Nationally, 21% of physician offices and 10% of hospitals had implemented EMRS in 2008.[5] In 2007, approximately 30% of physicians in Nebraska routinely used an EMR. Encouragingly, half of the physicians in Nebraska planned to implement an EMR system.[6]

The use of e-prescribing is also another important measure of health IT adoption. Although the use of e-prescribing is growing, adoption still remains low. Only 4% of eligible prescriptions in the U.S. were routed to pharmacies electronically in 2008.[7] In Nebraska, less than 2% of eligible prescriptions were routed electronically. [8] Nationally, 76 percent of community pharmacies in the U.S. were connected for prescription routing

[4] The *Federal Health Information Technology Strategic Plan: 2008-1012* is available at: http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_10731_848084_0_0_18/HITStrategicPlanSummary508.pdf .

[5] Office of the National Coordinator website, http://healthit.hhs.gov/portal/server.pt?open=512&objID=1152&parentname=CommunityPage&parentid=3&mode=2&in_hi_userid=10741&cached=true, accessed June 11, 2009.

[6] Galt, Kimberly; Drincic, Andjela; Paschal, Karen; Kasha, Ted; Bramble, James; Siracuse, Mark; Abbott, Amy; and Fuji, Kevin, Status of HIT In Nebraska: Focus on EHRs in Physician Offices, Creighton Health Services Research Program, March 2008, http://chrp.creighton.edu/Documents/EHR_Report/Status_of_Health_Information_Technology_in_Nebraska_March_2008.pdf, accessed on June 11, 2009, p. 6.

[7] National Progress Report on E-Prescribing. 2009. SureScripts. http://www.surescripts.com/downloads/NPR/national-progress-report.pdf accessed June 11, 2009, p. 10.

[8] Nebraska: State Progress Report on E-Prescribing. 2009. SureScripts. http://www.surescripts.com/downloads/NPR/NE2009.pdf, accessed June 26, 2009.

at the end of 2008.[9] In Nebraska, pharmacy participation in e-prescribing is significantly lower. Approximately 61% of pharmacies accepted e-prescriptions.[10] Physician use of e-prescribing also remains low. A survey of 612 Nebraska physicians carried out by the Creighton Health Services Research Program and the Nebraska Medical Association in March 2008 found 8.7% of physicians were e-prescribing. Of these, 59% reported daily use of e-prescribing.[11]

Nebraska has long recognized that telehealth can improve access to specialty health services and has implemented a very extensive telehealth network to address needs across the state. Nearly all of the state's hospitals and all of the state's public health departments are connected to the Nebraska Statewide Telehealth Network.[12] The network has been well-received by the physicians using it. On a 7-point scale, physicians using the network rated 6.69 on their future use of the system and 6.63 on their confidence in it. One barrier to greater use of telehealth is the current reimbursement policy. There are not consistent, comprehensive reimbursement policies that allow its integration into current health care practice. Partial Medicare reimbursement does exist, but there are limitations related to location, originating sites, providers and services. Medicaid payment is unique to each state; in Nebraska payment is mandated by LB559, but regulatory issues have slowed adoption in this area. Policies are continuing to evolve as agencies become more aware of the value of telehealth as a tool to deliver quality health care. Bills have been introduced in both the House and the Senate in 2009 that have the potential of significantly advancing reimbursement practices; in Nebraska a study L.B.160 has commissioned a study, which has as one of its goals identification and reduction of barriers to telehealth.

A challenge also exists in maintaining and enhancing the infrastructure for the telehealth network. The telehealth network receives significant funding from the federal universal service as well as funding from the Nebraska Public Service Commission. Hospitals also contribute to the operation of the network. In 2004, the FCC modified the definition of rural, which would have resulted in the loss of funding from the federal universal service fund for four sites (three of which are hubs and one endpoint) in Fremont, Norfolk, Kearney and Grand Island. This would be devastating to the network and account for over $225,000 in lost funds. The sites are grandfathered at this time, but that order will sunset on June 30, 2011.

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[9] National Progress Report on E-Prescribing. 2009. SureScripts. http://www.surescripts.com/downloads/NPR/national-progress-report.pdf accessed June 11, 2009, p. 15.

[10] Data from Surescripts website (http://www.surescripts.com, accessed April 28, 2009).

[11] Galt, Kimberly; Drincic, Andjela; Paschal, Karen; Kasha, Ted; Bramble, James; Siracuse, Mark; Abbott, Amy; and Fuji, Kevin, Status of HIT In Nebraska: Focus on EHRs in Physician Offices, Creighton Health Services Research Program, March 2008, http://chrp.creighton.edu/Documents/EHR_Report/Status_of_Health_Information_Technology_in_Nebraska_March_2008.pdf, accessed on June 11, 2009, p. 6.

[12] Information on the Nebraska Statewide Telehealth Network can be found at http://www.netelehealth.net .

As stakeholders, consumer needs and use of health IT should also be considered. Overall, consumers have positive views about a wide range of health IT applications, including telehealth, health information available over the Internet, and personal health records. Virtually all telehealth patients indicated they would recommend its use to a family member. Use of the system saved consumers attending meetings and conferences over $1 million in mileage costs alone. Over 60% of consumers (61%) have used the Internet as a source of health information.[13] While only nine percent of consumers surveyed have an electronic personal health record, 42 percent are interested in establishing PHRs connected online to their physicians.[14] Interestingly, health care professionals seem to have more concerns about PHRs than consumers. Healthcare professionals have voiced concerns about the accuracy of the information contained in a PHR because it is managed by the individual consumer.

Adoption Objectives

- Encourage and support health IT adoption by providers.
- Encourage and support e-prescribing.
- Build an appropriately-trained, skilled health information technology workforce.
- Provide effective analytics reporting for decision support.
- Encourage and support the adoption of personal health records.
- Encourage the integration of health information exchange with telehealth delivery.

Key Considerations and Recommendations

- Small physician practices, critical access hospitals, and independent pharmacies—especially in the most rural areas of the state—may require both financial and technical support to adopt health information technologies. Systems need to be scaled to optimal use given the size and scope of physician practices and institutional settings.
- Information technology applications have to include improvements in management that generate a fair return on investment to the organization adopting the new technology.

[13] Fox, Susannah and Jones, Sydney. The Social Life of Health Information. Pew Internet and American Life Project, June 2009, http://www.pewinternet.org/~/media//Files/Reports/2009/PIP_Health_2009.pdf, accessed on June 11, 2009, p. 8.

[14] 2009 Deloitte Survey of Health Care Consumers, Deloitte Center for Health Solutions, 2009, http://www.deloitte.com/dtt/cda/doc/content/us_chs_2009SurveyHealthConsumers_March2009.pdf, accessed on June 11, 2009, p. 7.

- It is also critical that providers include developing a culture of safety and continuous quality improvement as part of their health IT implementation plan. Without a culture of safety and continuous quality improvemetn, health IT adoption will have limited impact on improving quality of care and patient safety.
- When implementing new technologies, efforts should be made to identify new sources of errors and to address those errors.
- Physician practices, critical access hospitals, and pharmacies which have successfully implemented health IT can serve as models.
- Barriers to increased use of telehealth should be identified and addressed. These include statutory and regulatory issues as well as limitations on bandwidth.
- Colleges and universities should be encouraged to create and enhance existing HIT and bioinformatics curriculums for under grad and graduate degree programs.
- The involvement of all stakeholders in health IT implementation should be encouraged.
- Consumers are an important stakeholder group. They must be included in any advisory body.

Interoperability

Current Environment

Nebraska has four health information exchanges. The eHealth Council facilitates communication and coordination among Nebraska's health information exchanges.

Nebraska Health Information Initiative (NeHII) is the state's largest eHealth network. NeHII is exchanging laboratory, radiology, medication history and clinical documentation information in the Omaha area. In addition, insurance eligibility information will be sent creating an overall patient summary. NeHII is also piloting e-prescribing in the Omaha area. NeHII offers physicians a basic, web-based electronic medical record (EMRLite) that is CCHIT certified, so that providers who have not yet implemented electronic medical records can participate at a cost effective price. NeHII plans to expand statewide in the summer of 2009. More information is available at www.nehii.org. The majority of the implementation funding or seed capital was obtained through Class B membership fees from the pilot participants to the NeHII Collaborative. Partial funding for the pilot project was provided by a grant from the Nebraska Information Technology Commission. The NeHII business plan written in 2006 called for statewide implementation and plans to be financially sustainable by 2010 using licensing fees from the participants.

The Southeast Nebraska Behavioral Health Information Network (SNBHIN) is currently developing an eHealth network to exchange patient information among behavioral health providers in the Region V Service area, with the applications offered to other Regions in the State as time and resources allow. Participants include Blue Valley Behavioral Health Center, BryanLGH Medical Center, CenterPointe, Child Guidance Center, Community Mental Health Center, Cornhusker Place, Family Services, Heartland Health Alliance, Houses of Hope, Lincoln Council on Alcoholism and Drugs, Lincoln Medical Education Partnership, Lutheran Family Services, Mental Health Association, Region V Systems, and St. Monica's Home. SNBHIN partners have received several grants including a planning grant from the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ) in 2004, an AHRQ Ambulatory Care Grant in 2008, a three-year Rural Health Network Development Grant from the U.S. Department of Health and Human Services' Health Resources and Services Administration in 2008, Region V Systems, and a grant from the Nebraska Information Technology Commission.

The **Southeast Nebraska Health Information Exchange (SENHIE)** is improving the quality of care and increasing efficiency in Thayer County. Through a $1.6 million Critical Access Hospital Health Information Technology Grant, Thayer County Health Services has implemented the state's first health information exchange. Medical information on patients in Thayer County now flows seamlessly among providers, including physicians at satellite clinics or at Thayer County Health Services in Hebron, physicians and pharmacists at St. Elizabeth's Regional Medical Center, emergency responders, pharmacists, and long term care facilities. Thayer County Health Services

is totally electronic, including eMAR (electronic medication administration record), CPOE (computerized physician order entry), and e-prescribing. Thayer County Health Services has significantly reduced medication errors and achieved 100% medication reconciliation.

The **Western Nebraska Health Information Exchange (WNHIE)** will connect health care providers in the Panhandle. Partners include the Rural Nebraska Healthcare Network, Box Butte General Hospital, Chadron Community Hospital, Garden County Health Services, Gordon Memorial Hospital, Kimball Health Services, Memorial Health Center, Morrill County Community Hospital, Perkins County Health Services, Regional West Medical Center, Panhandle Public Health District, and Region I Mental Health and Substance Abuse. WNHIE has received several grants including a planning grant from the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ) in 2004, a three-year implementation grant from AHRQ, a HRSA Rural Network Development Grant, a Rural Health Care Pilot grant from the FCC, and a grant from the Nebraska Information Technology Commission.

Additionally, the **State of Nebraska Department of Health Human Services** has several systems which could interface with health information exchanges. The Division of Medicaid and Long Term Care is implementing a new Medicaid Management Information System which will be in place by 2011. Nebraska has all the data repositories that most states have to track and manage communicable disease, infectious disease, and many other components that affect the health of Nebraska's citizens. Nebraska is making significant improvements in applications to bring these multiple and dissimilar data streams into a usable tool. Nebraska was one of the beta sites for the National Electronic Disease Surveillance System development and currently receives 90% of all reportable diseases through the NEDSS system. Nebraska has developed a centralized immunization registry, a Parkinson's registry, and a robust provider alerting and communication network. Through the e-Nebraska Ambulance Rescue Service Information System (e-NARSIS), EMS providers can submit reports electronically. The Statewide Trauma Data Collection System was created to gather trauma information more accurately and timely to improve performance of state trauma system and to reduce morbidity and mortality. The Public Health/eHealth Work Group is identifying opportunities to develop interfaces between health information exchanges and public health data systems.

Interoperability Objectives

- Support the development and expansion of health information exchanges to improve the quality and efficiency of care.
- Support the development of interconnections among health information exchange in the state and across state borders.
- Encourage the electronic exchange of health data to state and local public health entities.

- Leverage the state's role as a payer to support health information exchange.
- Promote the development of a robust telecommunications infrastructure.

Key Considerations and Recommendations

- National standards and certification processes should be utilized to facilitate interoperability.
- Interoperability solutions selected should be cost-effective and provide the greatest return on investment to all engaged parties, and all who benefit should contribute to the cost of the investment.
- The development of sustainable business models should be encouraged.
- Existing eHealth initiatives and investments in Nebraska should be leveraged.
- Health information exchanges may play a role in providing value-added services and support to providers as well as exchanging information.

Privacy and Security

Current Environment

Nebraska HISPC. The Nebraska Health Information Security and Privacy Committee (HISPC) was originally formed by Lieutenant Governor Rick Sheehy in 2005. The HISPC became a work group of the Nebraska Information Technology Commission (NITC) eHealth Council in January 2007. The Nebraska HISPC conducted several studies through the Creighton Health Services Research Program to better understand perspectives of various stakeholders.[15] These studies focused on the viewpoints of state boards and commissions, medical associations, and consumers. The studies revealed a need for additional information on health information security and privacy. In 2008, the Nebraska HISPC formed work groups to focus on legal issues and education.

Legal Environment. The Legal Work Group of the Nebraska Health Information Security and Privacy Committee (HISPC) reviewed Nebraska health information disclosure laws to identify laws more stringent than HIPAA. Neb. Rev. Stat. 71-8403 stipulates that authorizations for release of medical records are valid for a maximum period of 180 days. The group recommended deleting the 180-day restriction. HIPAA requirements would then apply, allowing patients to state an expiration date or expiration event. Legislation will likely be introduced next year to eliminate the 180-day limit. The eHealth Council and E-Prescribing Work Group also identified a potential barrier to e-prescribing in a Nebraska statute that requires pharmacists to keep paper copies of prescriptions. LB 195, which was signed into law this year, included a change to this statute which would allow pharmacists to keep copies of prescriptions in a readily retrievable format. A more extensive legal review was conducted to identify Nebraska laws, regulations and statutes that govern the specific areas of behavioral health information and predictive genetic testing. Findings from this review are available in the appendix.

Consumer Research and Education. The University of Nebraska Public Policy Center conducted a deliberative discussion and survey on sharing health information electronically on Nov. 17, 2008, building upon the consumer research conducted by the Creighton Health Services Research Program for the Nebraska HISPC. The deliberative discussion and survey indicated that Nebraskans have positive views about sharing health information electronically, but do have some privacy and security concerns. Most participants in the deliberative discussion felt that the State of Nebraska had a role in ensuring the privacy and security of health information (100%), providing information to consumers about health information security and privacy (94%), regulating health information networks (91%), and facilitating public-private partnerships to exchange health information (88%). [16]

[15] The reports are available from the Creighton Health Services Research Program website (http://chrp.creighton.edu/).

[16] Abdel-Monem, Tarik, and Herian, Mitchel, Sharing Health Records Electronically: The Views of Nebraskans, University of Nebraska Public Policy Center, December 11, 2008, http://ppc.unl.edu/userfiles/file/Documents/projects/eHealth/Sharing_Health_Records_Electronically_Final_Report.pdf, accessed on June 25, 2009.

Additionally the Education Work Group is working with the Creighton Health Services Research Program to develop a website and consumer education brochure in conjunction with the national HISPC program.

Participation in the National HISPC initiative. Nebraska joined the national Health Information Security and Privacy Collaborative in 2007 and has participated in the Adoption of Standards collaborative. The collaborative conducted an in-depth analysis of security and privacy policies related to authentication and audit. Nebraska's health information exchanges participated in a review of their policies as part of this project. Participation in the national HISPC initiative has also facilitated communication with other states regarding health information security and privacy. As an extension of the HISPC 3 work, Nebraska has completed work on three different but related challenges: 1) Consumer Education, 2) Provider Education, and 3) Authentication and Access Control for the Nebraska immunization registry.

Health Information Exchanges. Nebraska health information exchanges have also developed security and privacy policies. Health information exchanges in Nebraska are using either opt-in or opt-out policies for consumer consent. The opt-in approach is one where patients have to sign an authorization acknowledging that they are permitting their data to be released to other providers. An opt-out policy for consumer consent does not require providers to seek advance consent from consumers to include their health information in a health information exchange, but consumers have the right to "opt out" of having their health information in a health information exchange. NeHII, the Western Nebraska Health Information Exchange (WNHIE), and the Southeast Nebraska Health Information Exchange (SNHIE) allow consumers to opt-out of participating in the exchange. The Southeast Nebraska Behavioral Health Information Network (SNBHIN) offers consumers information exchange on an opt-in basis according to Section 42 of the Code of Federal Regulations that requires consent for the release of behavioral health information.

Privacy and Security Objectives

- Continue to address health information security and privacy concerns of providers and consumers.
- Build awaren ess and trust of health information technology.

Key Considerations and Recommendations

- Privacy and security are key requirements for the exchange of health information exchange.

- Privacy and security policies and practices will continue to evolve in response to changes in the legal environment and technological changes.
- Nebraska's privacy and security laws may need to be further reviewed in light of the HITECH ACT. Compliance may require ongoing monitoring and policy changes.
- Although consumers are generally supportive of the use of health information technology, efforts should be made to educate consumers on how their health information is used, how it is protected, and what privacy rights they have.
- Providers may also need information and training on privacy and security laws and practices.

Governance

Current Environment

In Nebraska, the private sector is taking the lead in implementing and financing health information exchange. The State of Nebraska's eHealth Council acts as a facilitator and convener. Additionally, the state's health information exchanges have established governance structures.

eHealth Council

Lt. Governor Rick Sheehy and the Nebraska Information Technology Commission formed the eHealth Council in 2007 to foster the collaborative and innovative use of eHealth technologies through partnerships between public and private sectors, and to encourage communication and coordination among eHealth initiatives in Nebraska. The eHealth Council is charged with developing the state's eHealth plan.

Members include representatives of the following groups:

- The State of Nebraska
- Health Care Providers
- eHealth Initiatives
- Public Health
- Payers and Employers
- Professional Associations
- Consumers
- Resource Providers, Experts, and Others if Deemed Appropriate by the NITC

A list of eHealth Council members is included in the appendix.

Health Information Exchanges

The state's four health information exchanges have established governance structures. The members of their boards of directors are listed in the appendix.

NeHII is a Nebraska corporation organized under the Nebraska Nonprofit Corporation Act. It was formed by a collaboration of not-for-profit Nebraska hospitals, private entities, state associations, healthcare providers, independent labs, imaging centers and pharmacies. Representatives of these entities and the Lt. Governor sit on the Board of Directors of NeHII. In 2007, a Decision Accelerator meeting, with representatives of health organizations from across the state, jump started the endeavor. NeHII expects to receive its 501(c)3 tax exempt status within the next 60 days.

The **Southeast Nebraska Behavioral Health Information Exchange (SNBHIN)** is a tax exempt 501(c)3 private, non-profit corporation that serves as a Regional Health Information Organization (RHIO) for providers of Behavioral Health services in southeast

Nebraska. The governing Board of Directors is made up of stakeholder representatives who have been working together since 2003 to promote health information exchange as a means to improve patient care, integrate with primary care and improve efficiency of behavioral health care service delivery. The RHIO serves as the primary governing body providing oversight for the financing, development, and implementation of a Health Information Exchange (HIE) among behavioral health providers in southeast Nebraska. SNBHIN will offer HIE services to other Behavioral Health regions in Nebraska as made possible by time and resources.

The **Southeast Nebraska Health Information Exchange (SENHIE)** was formed as a result of Thayer County Health Services (TCHS) receiving a Critical Access Hospital-HIT grant enabling them to create an electronic health information exchange across the continuum of care for the patients of TCHS. Health information exchange occurs between EMS, clinics, hospital, nursing homes, assisted living pharmacy and tertiary hospital for the patients of TCHS. Exchange members include Thayer County Health Services, Blue Valley Lutheran Home, Riverside Assisted Living, Blue Valley Care Home, Parkview Haven Nursing Home, Priefert's Pharmacy, and St. Elizabeth Regional Medical Center.

The governance is currently the responsibility of Thayer County Health Services. The CEO together with the Board of Directors for Thayer County Health Services is responsible for the oversight of SENHIE

The Western Nebraska Health Information Exchange (WNHIE) is a collaborative effort of the major healthcare providers in the Panhandle. Partners who have developed the Exchange have been working together since 2004. The operating body, the Western Nebraska Health Information Exchange is an LLC organized under Nebraska State law. The Rural Nebraska Healthcare Project is its "parent" organization. A seven-member board is responsible for overseeing the planning and implementation of the Exchange.

Governance Objective

- Address issues related to governance, oversight, and financing of health information exchange.

Key Considerations and Recommendations

- Stakeholder input should be solicited when developing policies and recommendations, including future versions of the state eHealth plan.

- Mechanisms must be put in place to ensure accountability of any funds received through the American Recovery and Reinvestment Act.

- The sustainability of health information exchanges must be addressed.

Action Plans

Action Plans are currently being developed and will be included in the final version of the plan. Action plans will draw upon the reports and recommendations of eHealth Council work groups. These reports and recommendations are listed in Appendix B.

Appendix A
eHealth Council and Work Group Members

eHealth Council Members

The State of Nebraska/Federal Government

- Steve Henderson, Office of the CIO
- Senator Annette Dubas, Nebraska Legislature
- Dennis Berens, Department of Health and Human Services, Office of Rural Health
- Congressman Jeff Fortenberry, represented by Marie Woodhead

Health Care Providers

- Daniel Griess, Box Butte General Hospital, Alliance
- Dr. Delane Wycoff, Pathology Services, PC
  - Dr. Harris A. Frankel (alternate)
- Joni Cover, Nebraska Pharmacists Association
- September Stone, Nebraska Health Care Association
- John Roberts, Nebraska Rural Health Association

eHealth Initiatives

- Donna Hammack, Nebraska Statewide Telehealth Network and St. Elizabeth Foundation
- Ken Lawonn, NeHII and Alegent Health
- Harold Krueger, Western Nebraska Health Information Exchange and Chadron Community Hospital
- Wende Baker, Southeast Nebraska Behavioral Health Information Network and Region V Systems (pending NITC approval)

Public Health

- David Lawton, Department of Health and Human Services, Public Health Assurance
- Jeff Kuhr, Three Rivers Public Health Department, Fremont
  - Rita Parris, Public Health Association of Nebraska, alternate
- Kay Oestmann, Southeast District Health Department
  - Shirleen Smith, West Central District Health Department, North Platte, alternate
- Dr. Keith Mueller, UNMC College of Public Health

Payers and Employers

- Susan Courtney, Blue Cross Blue Shield
- Ron Hoffman, Jr., Mutual of Omaha
- Vivianne Chaumont, Department of Health And Human Services, Division of Medicaid and Long Term Care

Consumers

- Nancy Shank, Public Policy Center
- Alice Henneman, University of Nebraska-Lincoln Extension in Lancaster County

Resource Providers, Experts, and Others

- Joyce Beck, Thayer County Health System (pending NITC approval)
- Kimberly Galt, Creighton University School of Pharmacy and Health Professions

PHR Work Group Members

- Henry Zach, HDC 4Point Dynamics
- Marsha Morien, UNMC
- Ellen Jacobs, College of St. Mary
- Anne Skinner, UNMC
- Dan Griess, Box Butte General Hospital
- Clint Williams, Blue Cross Blue Shield of Nebraska
- Lisa Fisher, Blue Cross Blue Shield of Nebraska (alternate)
- Dr. James Canedy, Simply Well
- Michelle Hood, Nebraska Department of Health and Human Services, Immunization Registry
- Kevin Fuji, Creighton University
- Roger Wilson, State of Nebraska, Human Resources
- David Lawton, Nebraska Department of Health and Human Services
- Karen Paschal, Creighton University

E-Prescribing Work Group Members

- Mark Siracuse, E-Prescribing Work Group Chair, Creighton University
- Wende Baker, Southeast Nebraska Behavioral Health Information Network
- Deb Bass, Bass and Associates
- Joyce Beck, Thayer County Health System and Southeast Nebraska Health Information Exchange
- Kevin Borcher, Nebraska Methodist Health System & Nebraska State Board of Pharmacy
- Anne Byers, Nebraska Information Technology Commission
- Gary Cochran, UNMC
- Kevin Conway, Nebraska Hospital Association
- Joni Cover, Nebraska Pharmacists Association
- Eric Gall, RP
- Kimberly Galt, Creighton University
- Dave Glover, Family Practice Associates, Kearney
- Chris Henkenius, Bass and Associates
- Tony Kopf, Nebraska State Board of Pharmacy
- David Lawton, Nebraska Department of Health and Human Services
- Dale Mahlman, Nebraska Medical Association
- Marcia Mueting, Nebraska Pharmacists Association
- Carey Potter, National Association of Chain Drug Stores
- September Stone, Nebraska Health Care Association
- Clint Williams, Blue Cross and Blue Shield of Nebraska (also representing NeHII)

Public Health/eHealth Work Group Members

Nebraska Department of Health and Human Services

- Public Health Informatics & Biosecurity--David Lawton
- Administration--Dr. JoAnn Schaefer
- Public Health Data--Dave Palm and Colleen Svoboda (alternate)
- Immunization Registry--Michelle Hood
- Epidemiology--Tom Safranek
- EMS—Doug Fuller
- Licensure—Helen Meeks and Joann Erickson (alternate)
- Vital Stats—Stan Cooper or Mark Miller

Local Health Departments or Districts

- Douglas County Health Department— Anne O'Keefe
- Lincoln-Lancaster County Health Department—Bruce Dart and Kathy Cook (alternate)
- Nebraska SACCO/Two Rivers Public Health Department—Terry Krohn
- Three Rivers Public Health Department--Jeff Kuhr

Health Information Organizations

- NeHII (Nebraska Health Information Initiative)—Kevin Conway
- SNBHIN (Southeast Nebraska Behavioral Health Information Network)--Wende Baker
- WNHIE (Western Nebraska Health Information Exchange)--Kim Engel and Kim Woods (alternate)

UNMC College of Public Health

- Chair: Keith Mueller and Li-Wu Chen (alternate)

Other Key e-Health Public Health Entities with Decision-making Authority

- Public Health Association of Nebraska--Rita Parris

Providers and Provider Associations

- Nebraska Health Information Management Association—Kim Hazelton
- Douglas County Community Mental Health Center—John Sheehan
- UNMC—Dr. James Campbell

NITC Staff

- Anne Byers

Appendix B
Reports, Recommendations, and Related Research

Adoption

Related Research

- Creighton Health Services Research Program Report: Status of Health Information Technology In Nebraska: Focus on Electronic Health Records in Physician Offices (2008)
- Creighton Health Services Research Program Report: State of Patient Safety in Nebraska Pharmacy (2008)

Work Group Reports and Recommendations

- E-Prescribing Work Group Report and Recommendations (2009)
- PHR Work Group Report and Recommendations (2009)

Interoperability

Work Group Reports and Recommendations

- HIE representatives recommendations (2009)

Privacy and Security

Related Research

- Baird Holm Legal Review (2009)
- University of Nebraska Public Policy Center Report: Sharing Health Records Electronically: The Views of Nebraskans (2008)
- Creighton Health Services Research Report: Survey of Health/Licensure/Certification and Facilities Oversight Board Managers (2007)
- Creighton Health Services Research Report: Survey of Health Professions Organizations Leadership (2007)
- Creighton Health Services Research Report: Study of Consumer View Points on Health Information, Security, and Privacy (2007)

Work Group Reports and Recommendations

- HISPC Summary Report—Executive Summary Only (2009)
- HISPC Summary Report (2009)
- HISPC: Security and Privacy Barriers to Health Information Interoperability (2007)
- HISPC: Recommendations Summary (2007)

See http://www.nitc.nebraska.gov/eHc/plan/reports/ for the latest list of reports, recommendations and related research.

Appendix C

Health Information Exchange Governance

Nebraska Health Information Initiative (NeHII)

Elected Directors

- **President:** Harris Frankel, MD, Goldner, Cooper, Cotton, Sundell, Frankel, Franco Neurologists, Omaha, NE
- **Vice President:** Ken Lawonn, Alegent Health System, Omaha, NE
- **Secretary:** George Sullivan, Mary Lanning Memorial Hospital, Hastings, NE
- **Treasurer:** Steve Martin, Blue Cross and Blue Shield of Nebraska
- Delane Wycoff, MD - Pathology Services PC, North Platte, NE
- Michael Westcott, MD - Alegent Health System, Omaha, NE
- Lisa Bewley - Regional West Medical Center, Scottsbluff, NE
- Dan Griess - Box Butte General Hospital, Alliance, NE
- Roger Hertz - Methodist Health System, Omaha, NE
- Bill Dinsmoor - The Nebraska Medical Center, Omaha, NE
- Ken Foster – BryanLGH Health System

Appointed Directors

- Lt. Gov. Rick Sheehy
- Kevin Conway - Professional Organizations, Nebraska Hospital
- Association, Lincoln, NE
- Deb Bass - Executive Director, Bass & Associates Inc., Omaha, NE
- Sandy Johnson, Consumer Representative

Southeast Nebraska Behavioral Health Information Exchange (SNBHIN)

Board Members

- Ken Foster, BryanLGH Medical Center & Heartland Health Alliance
- C.J. Johnson, Region V Systems
- Dean Settle, Community Mental Health Center of Lancaster County
- Shannon Engler, BryanLGH Medical Center Mental Health Services
- Jon Day, Blue Valley Behavioral Health
- Julie Fisher-Erickson, Lutheran Family Services
- Joleen TenHulzen Huneke, Southeast Rural Physicians Alliance
- Jonah Deppe, National Alliance for the Mentally Ill
- Kevin Karmazin, Lutheran Family Services/Community Mental Health Center

Network Members

- Blue Valley Behavioral Health Center
- CenterPointe
- Child Guidance Center
- Community Mental Health Center of Lancaster County
- Cornhusker Place
- Houses of Hope
- Lincoln Council on Alcoholism and Drugs
- Lincoln Medical Education Partnership
- Lutheran Family Services
- Mental Health Association
- Region V Systems
- St. Monica's

Southeast Nebraska Health Information Exchange (SENHIE)

Exchange Members

- Thayer County Health Services
- Blue Valley Lutheran Home
- Riverside Assisted Living
- Blue Valley Care Home
- Parkview Haven Nursing Home
- Priefert's Pharmacy
- St. Elizabeth Regional Medical Center

The governance is currently the responsibility of Thayer County Health Services. The CEO of TCHS together with the Board of Directors for TCHS is responsible for the oversight of SENHIE

Western Nebraska Health Information Exchange (WNHIE)

Exchange Managers

- Lisa Bewley, President - Regional West Medical Center (CIO)
- Kim Engel - Panhandle Public Health District (Executive Director)
- Danielle Gearhart - Memorial Health Center (CEO)
- Dan Griess - Box Butte General Hospital (CEO)
- David Griffiths - Regional West Medical Center (CFO)
- Jeff Tracy, Vice President - Panhandle Community Services Health Clinic (Director)
- Sharyn Wohlers, Secretary-Treasurer - Panhandle Mental Health Center (Regional Administrator)

Appendix D
Glossary

Computerized Provider Order Entry (CPOE) is a computer application that allows a physician's orders for diagnostic and treatment services (such as medications, laboratory, and other tests) to be entered electronically instead of being recorded on order sheets or prescription pads. (Office of the National Coordinator Glossary of Selected Terms)

A Decision-Support System (DSS) consists of computer tools or applications to assist physicians in clinical decisions by providing evidence-based knowledge in the context of patient-specific data. (Office of the National Coordinator Glossary of Selected Terms)

An Electronic Health Record (EHR) is a longitudinal electronic record of patient health information generated in one or more care settings. EHR data includes patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports. (Health Information and Management System Society)

An Electronic Medical Record (EMR) is a computer-based medical record. The EMR is the source of information for the electronic health record (EHR). (Health Information and Management System Society)

Electronic Prescribing (eRx) is a type of computer technology whereby physicians use handheld or personal computer devices to review drug and formulary coverage and to transmit prescriptions to a printer or to a local pharmacy. (Office of the National Coordinator Glossary of Selected Terms)

Health Information Exchange (HIE) facilitates access to and retrieval of clinical data from multiple providers to provide safer, more timely, efficient, effective, equitable, patient-centered care. (eHealth Initiative Glossary)

An **opt-in policy for consumer consent** requires providers to seek advance consent from consumers to include their health information in a health information exchange.[17]

An **opt-out policy for consumer consent** does not require providers to seek advance consent from consumers to include their health information in a health information exchange, but consumers have the right to "opt out" of having their health information in a health information exchange. [18]

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[17] Adopted from Rosati, Kristen. Consumer Consent for Health Information Exchange:An Exploration of Options, Coppersmith Gordon Schermer & Brockelman PLC, 2008, http://www.ehealthinitiative.org/assets/Documents/ConsumerConsentforHealthInformationExchange-AnExplorationofOptions.pdf, accessed June 26, 2009

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[18] Adopted from Rosati, Kristen. Consumer Consent for Health Information Exchange:An Exploration of Options, Coppersmith Gordon Schermer & Brockelman PLC, 2008, http://www.ehealthinitiative.org/assets/Documents/ConsumerConsentforHealthInformationExchange-AnExplorationofOptions.pdf, accessed June 26, 2009

Personal Health Record (PHR) is the version of the health/medical record owned by the patient. (Health Information and Management System Society)

Telehealth is the use of telecommunications and information technologies to provide healthcare services over distance and/or time, to include diagnosis, treatment, public health, consumer health information, and health professions education. (Minnesota e-Health Glossary of Selected Terms)